WELCOME

ENERGY MANAGEMENT PROGRAM
at
FORT HOOD, TEXAS

- Largest military base in the free world
- Located between Austin and Waco, Texas
- 340 square mile
- Power Projection Platform of the Army

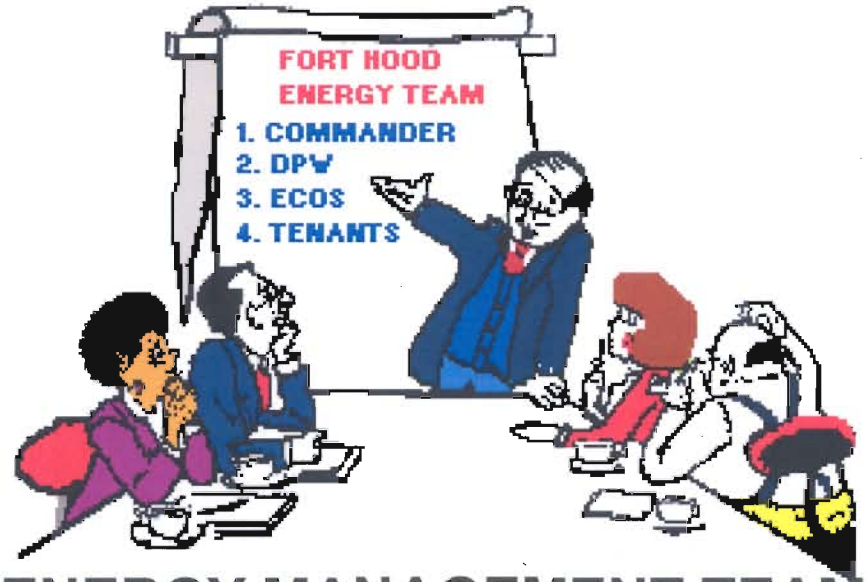
THIS IS WHAT WE DO BEST

FORT HOOD ENERGY PROGRAM

TOPICS

- ENERGY MANAGEMENT TEAM
- PRIMARY ENGINEERING FUNCTIONS
- FORT HOOD PERFORMANCE
- ENERGY AWARENESS
- CONSUMPTION VS COST
- MANAGEMENT SHORTFALLS
- ESPC
- UTILITIES PRIVATIZATION

ENERGY TEAM



ENERGY MANAGEMENT TEAM

Mr. Bobby Lynn	Team Leader
Mr. Frank Piotrowski	Electrical Engineer
Mr. Edwin Frazier	General Engineer
Mr. Daniel Shaff	Engineer Technician
Mr. Dick Strohl	Engineer Technician
Mr. Myron Cook	EMCS, Contractor
Ms. Emely Silva	Sales, Contractor

Fort Hood Populace **Garrison**

PRIMARY ENGINEERING FUNCTIONS

REVIEW PLANS AND SPECS

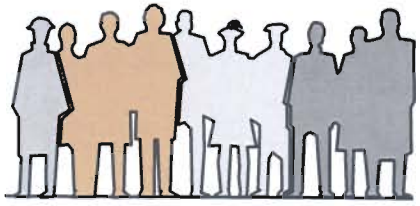
PURCHASE AND SELL UTILITIES

EVALUATE SUGGESTION AWARDS

ELEC DEMAND MANAGEMENT

CONDUCT COST ANALYSES/VARIOUS SURVEYS

ENERGY AWARENESS PROGRAM

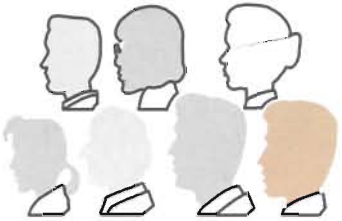


COMMAND ENERGY COUNCIL

UTILITIES PRIVATIZATION

ENERGY AWARENESS

ENERGY ARTICLES



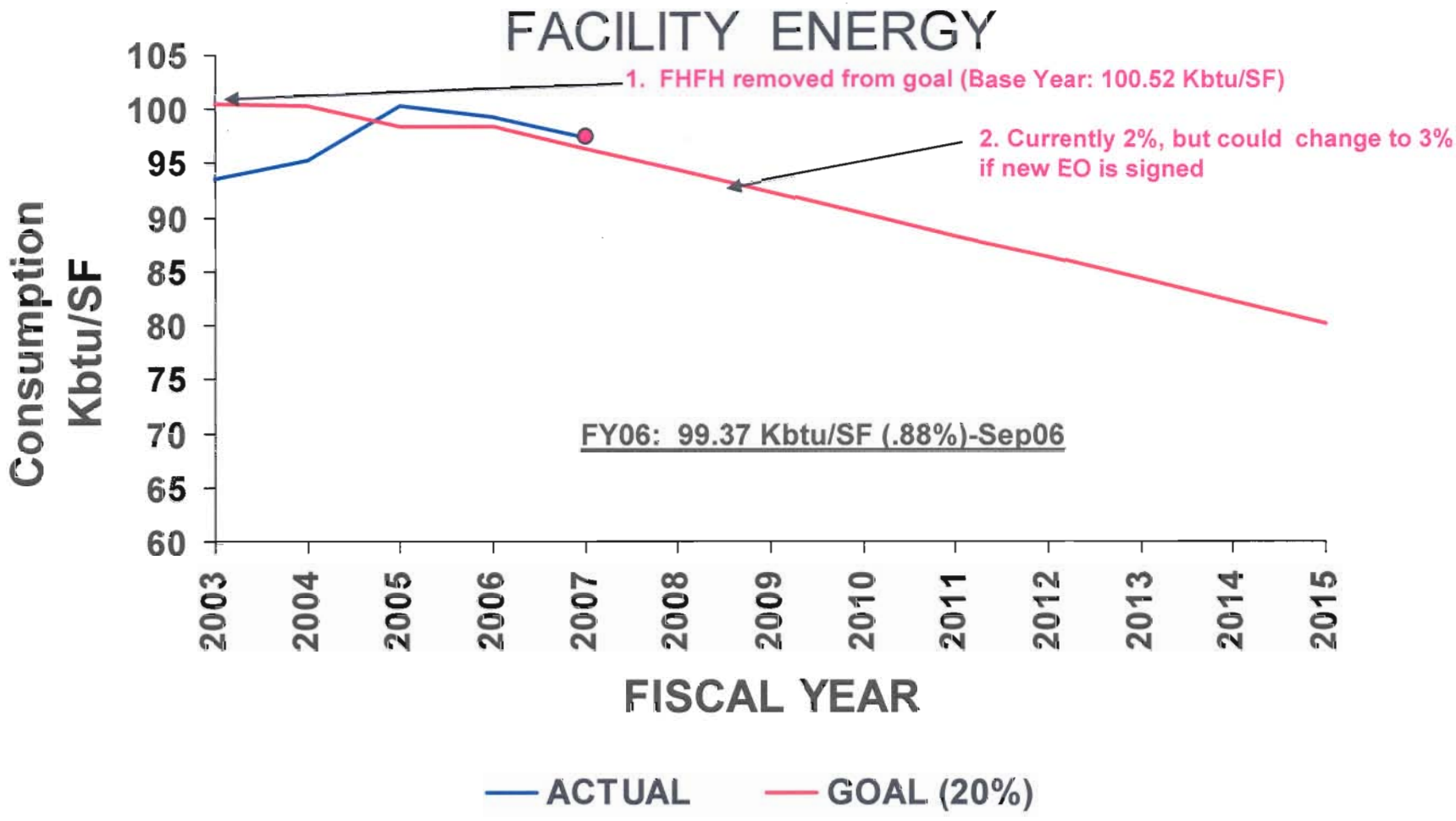
ENERGY SEMINARS

ENERGY
HOTLINE

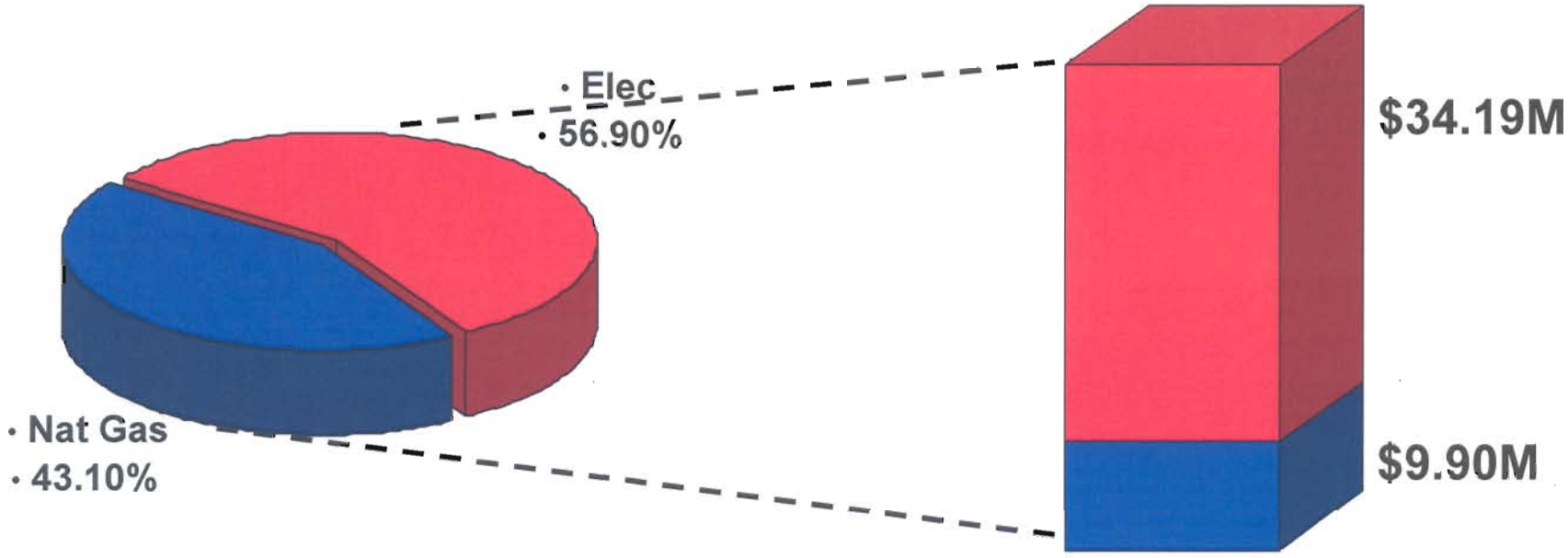
ENERGY BRIEFING

ENERGY TRAINING

FORT HOOD PERFORMANCE



CONSUMPTION VS COST (FISCAL YEAR 2006) [1]



Energy Consumption
2,047,163 MMBTU

Energy Cost
$44,128,246.22

1. Only Nat Gas and Electricity Consumption
2. Consumption and cost is gross cost without deduction of Reim Customers

MANAGEMENT SHORTFALLS

- METERS ARE IMPORTANT ASSET
- METERS PROVIDE ACCURATE FEEDBACK OF ENERGY SAVING
- USED TO FOSTER COMPETITION AMONG SIMILAR ENTITIES
- MAY BE AUTOMATED VIA UCS OR AMR

- SET ASIDE FUNDS FOR PROMOTIONAL MATERIAL
- PROMOTIONAL MATERIAL INCREASES AWARENESS

DELIVERY ORDERS 1 & 2

ECM 3.1 (HVAC Controls)

- Various facilities
- Use of LonWorks to help eliminates proprietary system and headaches.
- Annual Savings = $927K

ECM 3.3 (Vending Misers)

- Reduce energy consumption of Vending Machines
- Completed over 650 machines
- Annual Savings = $54K

Show me the $$$

ECM 4.2 (Variable Speed Drive-87000 Central Plant-Cooling Tower)

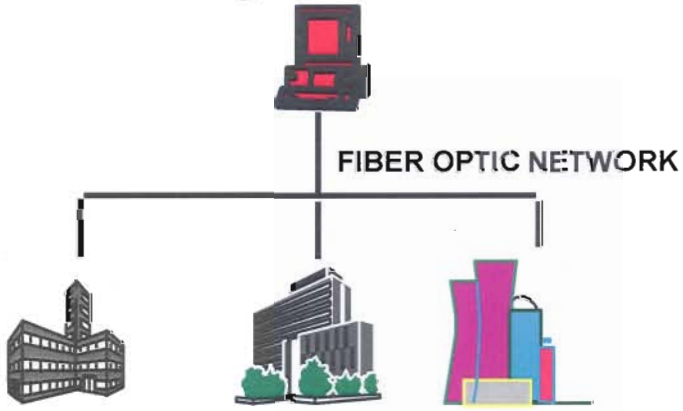
- Reduces energy consumption
- Annual Savings = $2K

ECM 5.1 (Lighting)

- More efficient lighting, reduce energy consumption
- Various facilities
- Annual Savings = $731K

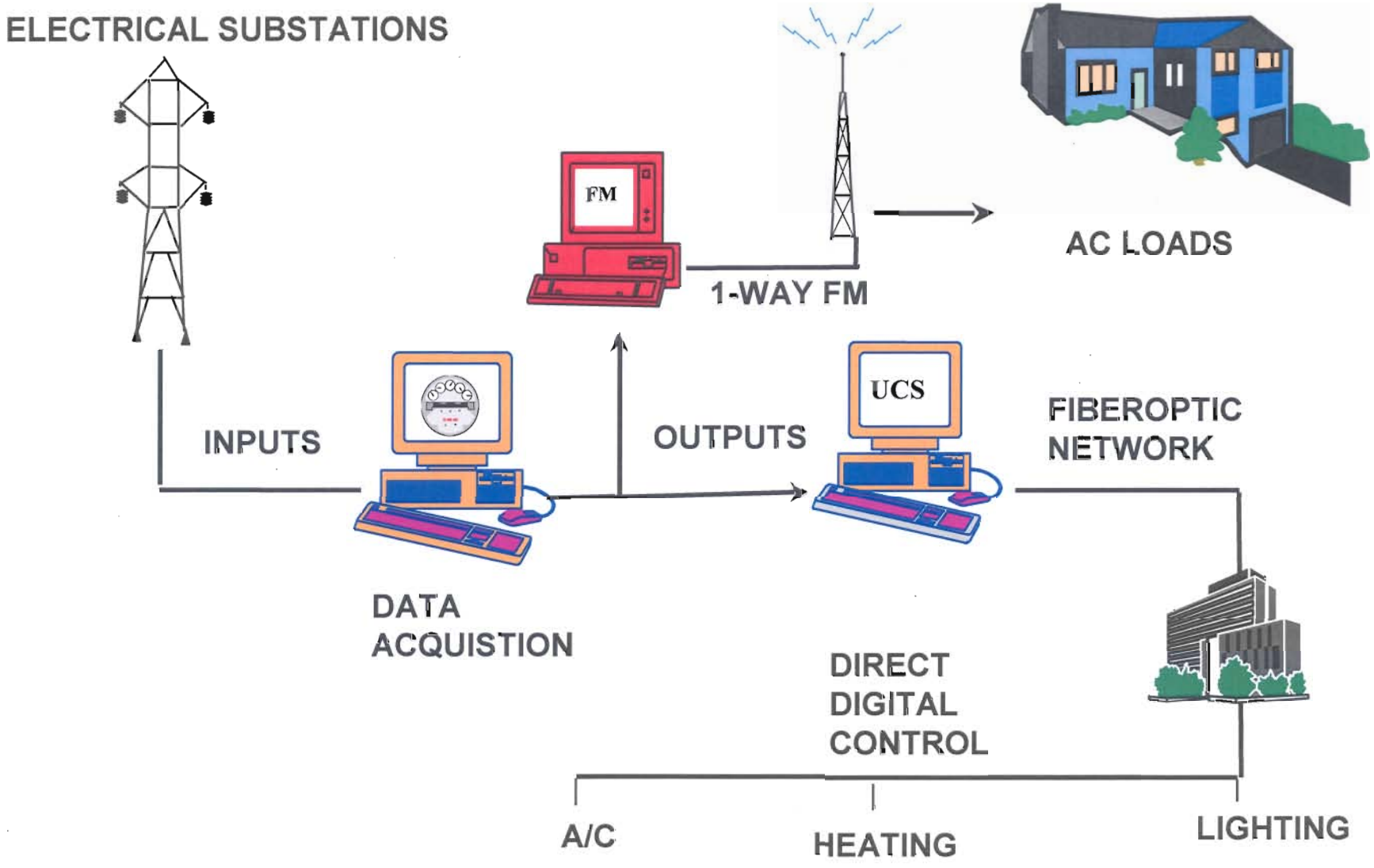
ECM 3.1 – HVAC Controls

- Installation-wide supervisory control system
- Distributive processing allows stand-alone operation of buildings



- UCS monitors, control and provides alarm conditions
- Control capabilities:
  - HVAC systems
  - Motors and Lighting
- Monitoring capabilities:
  - Water distribution and storage tanks
  - Electrical distribution
  - Other

UCS CONFIGURATION



ESPC PROJECT

ECM 3.3 – Vending Miser

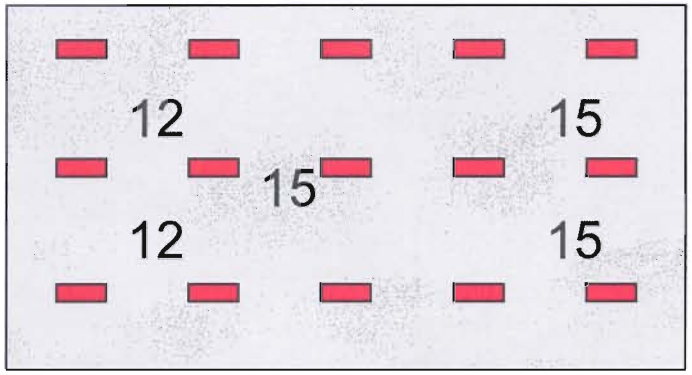
Each vending machine that takes advantage of the VendingMiser (shown below) can save up to $75 a year in energy costs.

- Use Passive Infrared (PIR) Sensor
- Automatically turns off machine when surrounding area is vacant
- Automatically re-power machine when needed.
- Keep items cold.
- Never powers down when compressor is running.
- Reduce consumption by an average of 46%.
- Approved by most vending companies (i.e. Coke)

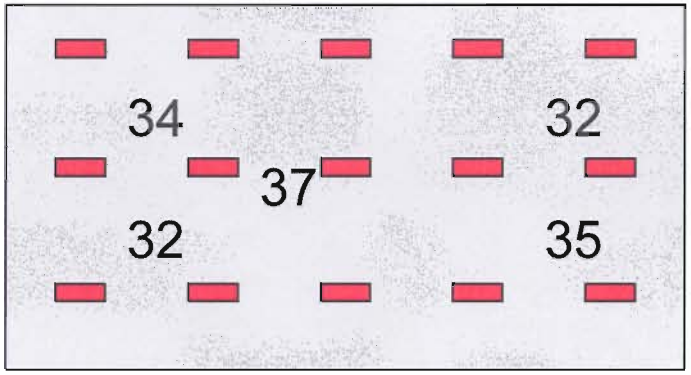
SPECIFICATIONS

Input Voltage:	115 Volts
Max Load:	12 amps
Power Cons:	< 1 Watt
Timeout:	15 minutes
Safety:	UL Listed

ESPC PROJECT
ECM 5.1 – Lighting – Bldg 15060



Avg FC: 14



Avg FC: 34

UTILITIES PRIVATIZATION

- **Started: Feb 1996**
  - **1- ESPC 2- PRIVATIZATION 3- PURCHASING 4- INTEGRATOR**

- **Current Status**
  - **Developed all systems documentation in 2004**
  - **Process became dormant**
  - **Process revived in late 2006**
  - **Working Water and Wastewater Solicitation**
  - **Performing update to inventory, capital plan and cost estimate**
  - **Expect economic decision in FY 2007**

Electrical Distribution

Nat Gas Distribution

Water Distribution

Discussion/Questions